Bonneville Power Administration
Fish and Wildlife Program FY99 Proposal

Section 1. General administrative information

Construct Sediment Settling Basin

Bonneville project number, if an ongoing project 9160

Business name of agency, institution or organization requesting funding
Kittitas Reclamation District

Business acronym (if appropriate) KRD

Proposal contact person or principal investigator:

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Subcontractors.

Organization	Mailing Address	City, ST Zip	Contact Name
CH2M Hill	3190 George Washington Way, Suite B	Richland, WA 99352	R.V. Haapala

NPPC Program Measure Number(s) which this project addresses.

NMFS Biological Opinion Number(s) which this project addresses.

Other planning document references.

Subbasin.
Kittitas

Short description.
Improve the quality of water discharged into the Yakima River from a major drainage channel within the KRD service area by constructing a sediment settling basin.

Section 2. Key words

Mark	Programmatic Categories	Mark	Activities	Mark	Project Types
X	Anadromous fish		Construction		Watershed
*	Resident fish	X	O & M		Biodiversity/genetics
*	Wildlife		Production		Population dynamics
	Oceans/estuaries		Research	*	Ecosystems
	Climate		Monitoring/eval.		Flow/survival
	Other	*	Resource mgmt		Fish disease
			Planning/admin.		Supplementation
			Enforcement	X	Wildlife habitat en-
			Acquisitions		hancement/restoration

Other keywords.
Water quality, soil erosion, fish survival, turbidity

Section 3. Relationships to other Bonneville projects

Project #		Nature of relationship

Section 4. Objectives, tasks and schedules

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Operation and Maintainence	a	Continue O & M into the future.

Objective schedules and costs

Objective #	Start Date mm/yyyy	End Date mm/yyyy	Cost %
1	1/1999	12/1999	
			TOTAL 0.00%

Schedule constraints.
There are no known consrtaints.

Completion date.
1999

Section 5. Budget

FY99 budget by line item

Item	Note	FY99
Personnel	KRD Staff	$3,000
Fringe benefits		$2,000
Supplies, materials, non-expendable property		
Operations & maintenance		
Capital acquisitions or improvements (e.g. land, buildings, major equip.)		
PIT tags	# of tags:	
Travel		
Indirect costs		
Subcontracts		
Other		
TOTAL		$5,000

Outyear costs

Outyear costs	FY2000	FY01	FY02	FY03
Total budget				

O&M as % of total				

Section 6. Abstract

The irrigated lands within the Kittitas Reclamation District (KRD) service area are drained by a network of major drainage waterways. Much of the KRD drain water is collected by the Kittitas Drain which discharges into the Yakima River near the railroad bridge at the head of the Yakima Canyon (Section 6, T 16 N, R 19 EWM). The KRD Turbine Lateral spill discharges to the Kittitas Drain in the same vicinity. The proposed sediment settling basin would improve the quality of the Yakima River by removing much of the sediment from the drain water. The settling basin will require periodic cleaning as sediment accumulates.

Installation of the settling basin will be achieved through a four step program which will consist of: design, property acquisition, construction, and O & M.

With adequate funding, the program could be constructed during 1998. The water quality improvements would be achieved as soon as the settling basin is constructed. The success of the program would be measured as part of the KRD water quality monitoring program. The presence of constituents such as turbidity and suspended solids in the water returning to the Yakima River are expected to diminish when the sediment settling basin is constructed.

Section 7. Project description

a. Technical and/or scientific background.

The water quality of the Yakima River has been evaluated by many agencies. Those studies conclude that the low flow rates and high levels of turbidity that exist at certain times of the year are detrimental to fish and wildlife. Several studies and on going data collection programs identify the major drainage waterways as significant sources of suspended sediments. The surface irrigation methods (rill, furrow, and wild flooding) used in the KRD services area to grow specialty crops such as Timothy hay contribute to the basin's water quality problem. The technology of sediment settling basins is well proven and has been used successfully in the Yakima Basin to a limited extent for many years. The proposed settling basin would provide settling capacity at a location that now has none. This location is at a point on the Yakima River where the water quality is relatively good and excellent fish habitat exists. Reduction of sediment at this location represents a significant improvement to the river water quality.

b. Proposal objectives.

It is the objective of the settling basin project to improve the quality of water returning to the Yakima River. The program represents significant improvement in water quality.

The success of the settling basin project can be monitored by expanding the district's water quality program. Much background data has already been collected and will serve as a benchmark to measure the improvements.

c. Rationale and significance to Regional Programs.

The rationale behind the sediment settling basin project is very basic. Detention of the turbid drainage water will result in higher quality water being discharged to the Yakima River.

d. Project history

The proposed settling basin program represents an expansion of practices that have been in place on a smaller scale for many years in other districts. Financial constraints currently limit the ability of the KRD to implement the settling basin program on a large scale.

e. Methods.

Implementation of the settling basin program will consist of: design, property acquisition, construction, and O & M. Since the site of the settling basin has already been identified, the project could proceed very quickly.

The construction activities that will be required are the same as currently practiced by qualified local construction contractors. The work that will be needed to construct the sediment settling basin will be able to be completed during the irrigation season. This will allow the work to proceed during favorable weather conditions and thereby reduce costs.

There will be a need for continuing inspection and maintenance of settling basins. The KRD is prepared to assume these responsibilities after the first year of operation. No continuing O & M budget is projected as part of the publicly funded project after the first year of operation (end of 1999).

f. Facilities and equipment.

The planning work needed to implement the sediment settling basin program is similar to the type of work regularly performed by the KRD staff. It is not anticipated that it will be necessary to acquire any additional specialized equipment or facilities for the planning work. However, the design and construction management is beyond the KRD's ability to staff for this short duration project. It is anticipated that a consultant will be used for these tasks. Likewise, a construction contractor will be used for the actual construction work. The administrative workload will be able to be handled with the existing KRD staff.

g. References.

CH2M HILL, 1975. Agricultural Return Flow Management in the State of Washington. Prepared for Washington State Department of Ecology.

Department of Ecology, 1990. Statewide Water Quality Assessment 350 (B) Report, State of Washington.

Section 8. Relationships to other projects

The sediment settling pond program is related to efforts currently underway and proposed to improve the quality of water in the Yakima Basin. This project very specifically links to and depends upon the KRD water quality monitoring program. It is also closely tied to the return flow improvement program. The water quality improvements that will result will be complementary to the programs done by others in the Yakima Basin.

Section 9. Key personnel

The work will be managed by KRD staff. A consultant will be retained to complete the design and construction management tasks. The construction will be done by a contractor specializing in this type of work. Operation and maintenance work will be done by KRD staff.

Section 10. Information/technology transfer

The project is expected to serve as a demonstration of the benefits that can be achieved by managing the quality of water that returns to irrigation and drainage waterways by using adequately sized and maintained settling basins. This concept could be applied to many other irrigation and drainage projects.